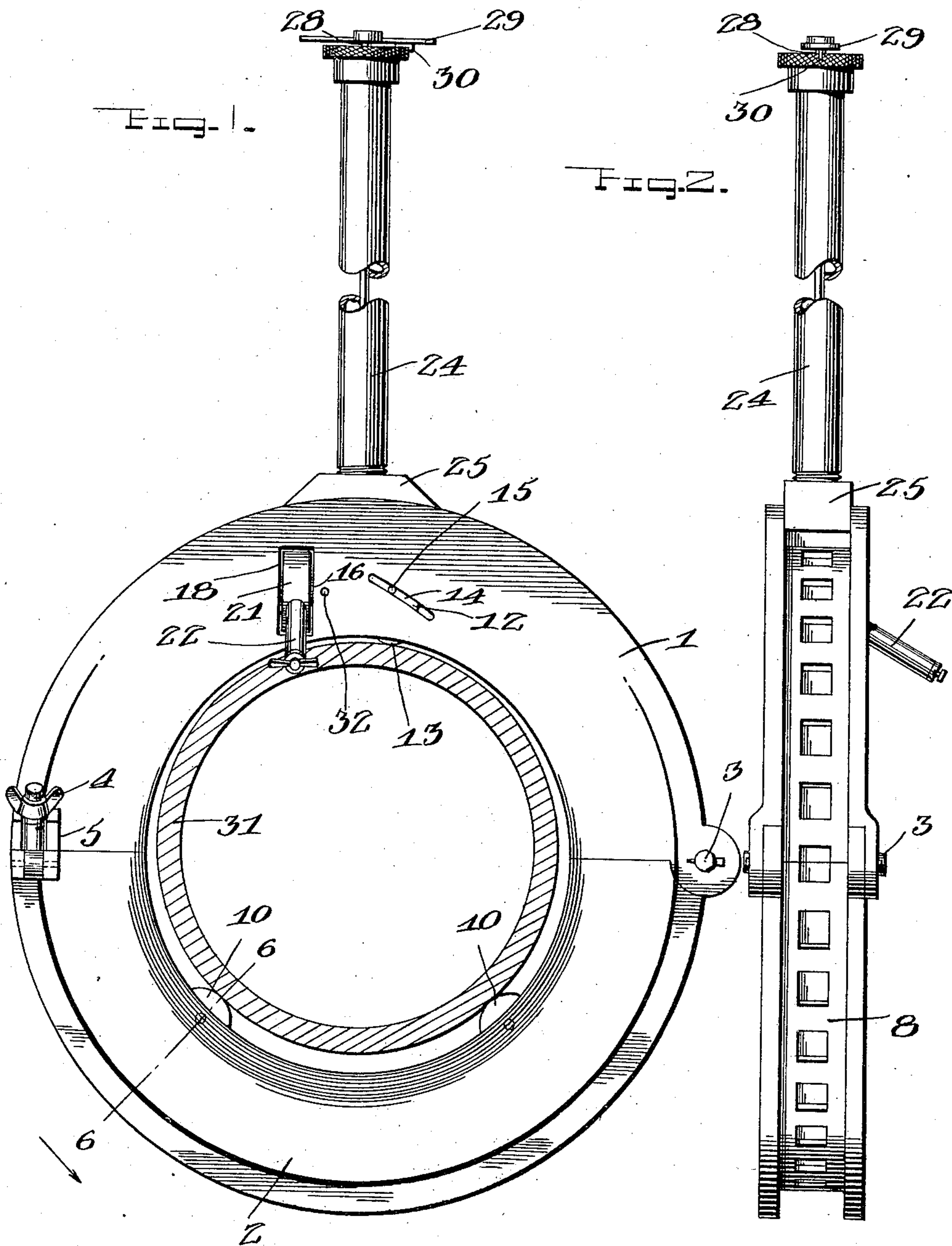


996,602.

F. A. ANDERSON.
PIPE CUTTER.
APPLICATION FILED SEPT. 27, 1910.

Patented July 4, 1911.

2 SHEETS-SHEET 1.



Witnesses
W. H. Redwell
Caroline Morgan

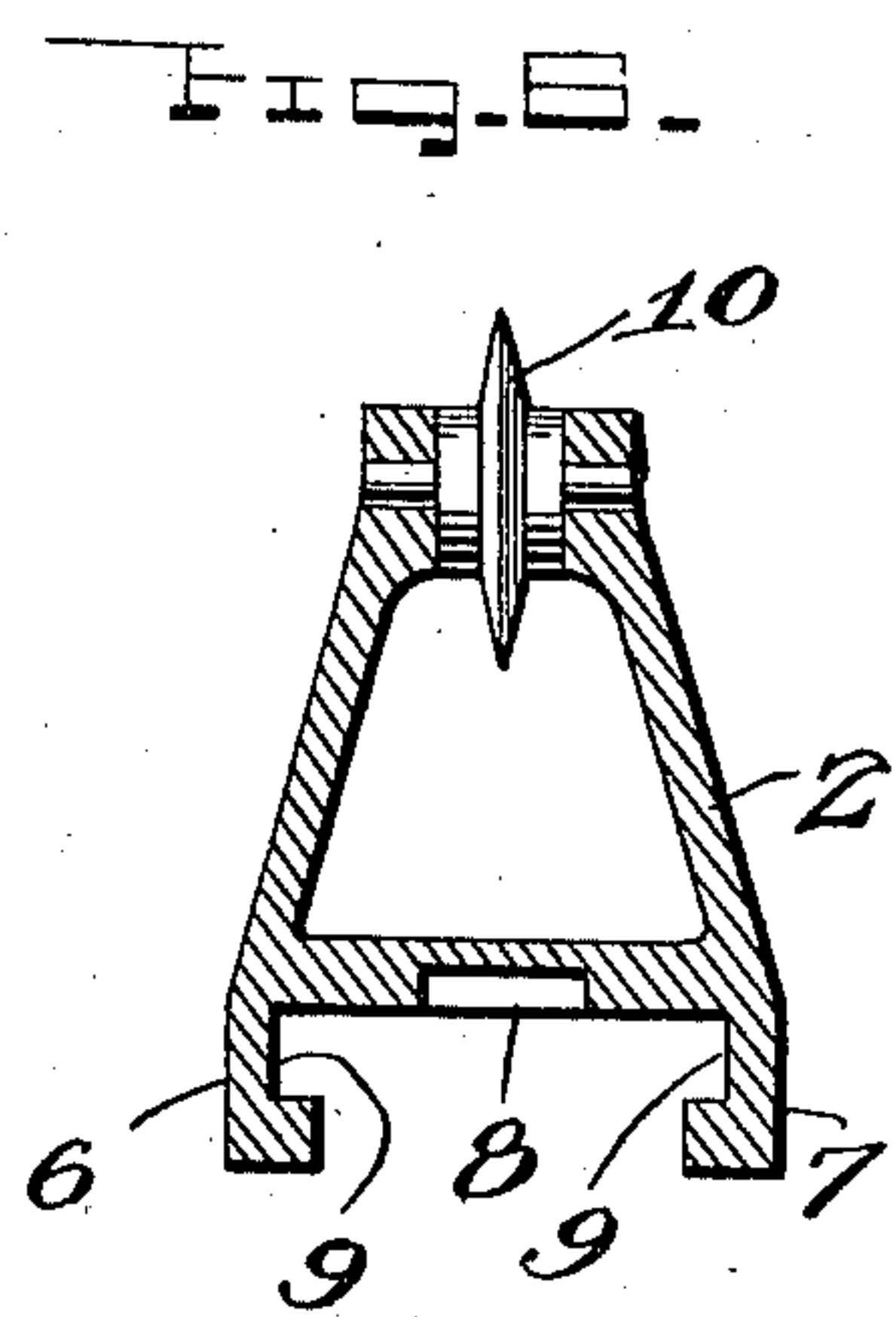
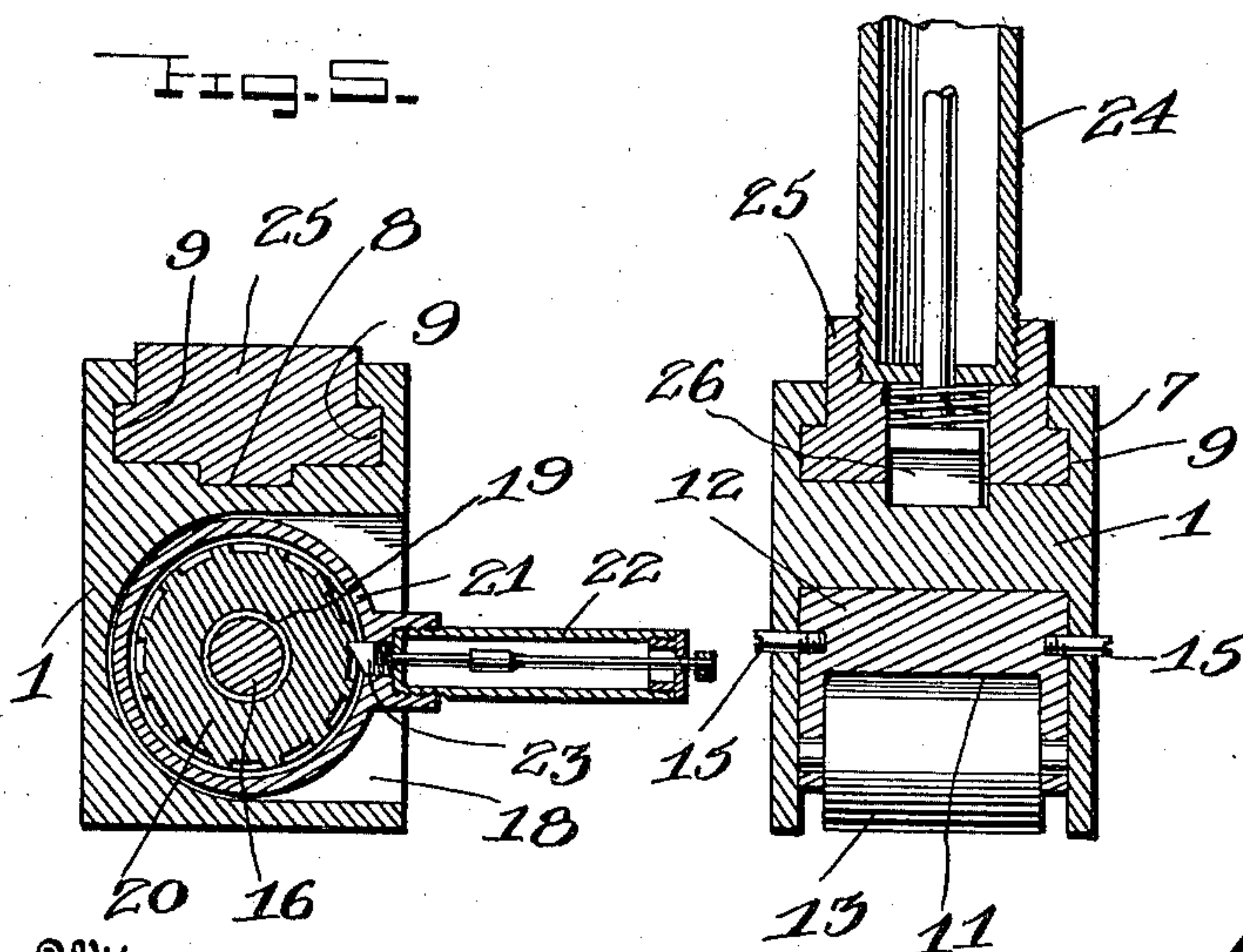
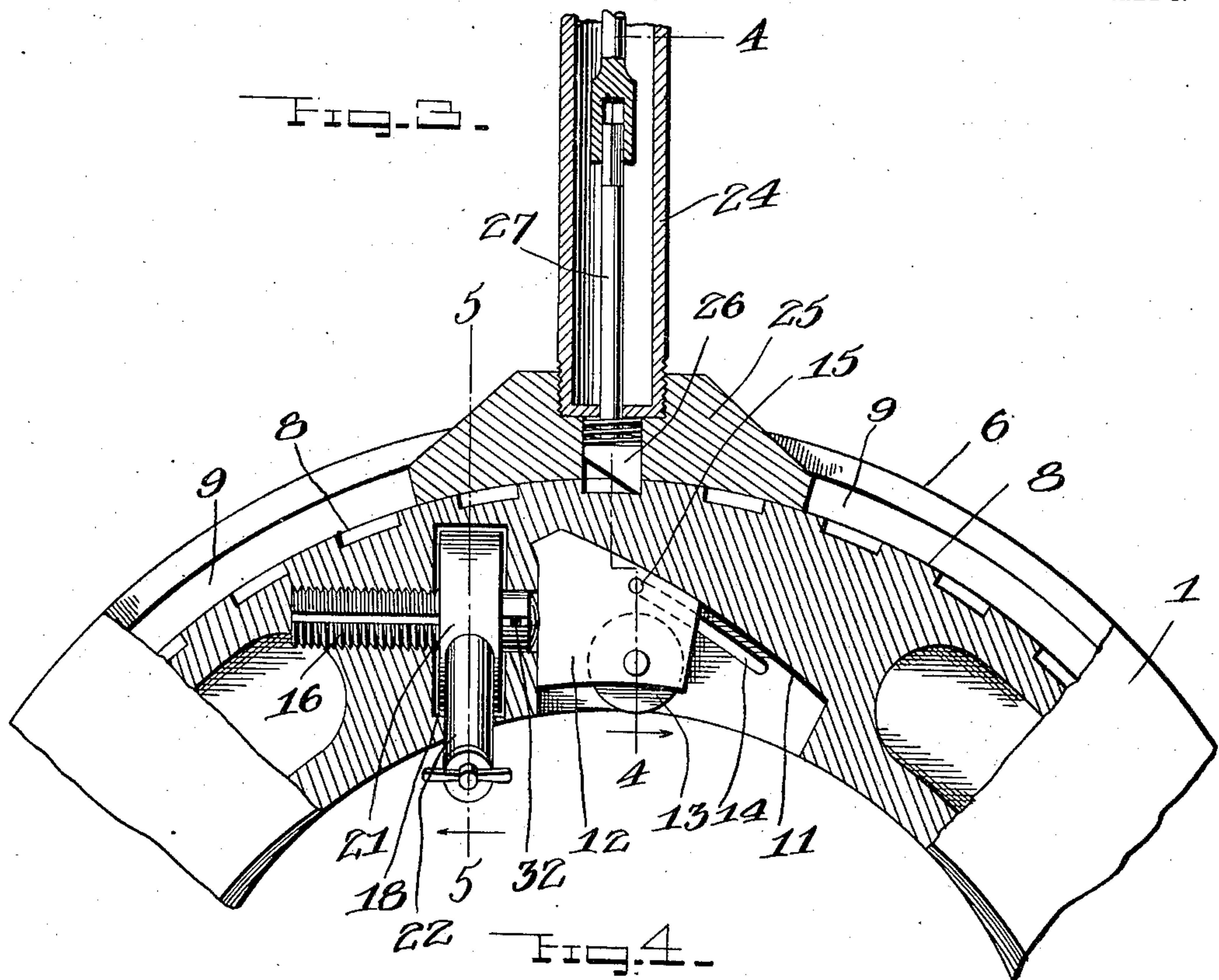
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2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANK A. ANDERSON, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO WILLIAM D. ALLEN, OF BUFFALO, NEW YORK.

PIPE-CUTTER.

996,602.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed September 27, 1910. Serial No. 584,095.

To all whom it may concern:

Be it known that I, FRANK A. ANDERSON, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Pipe-Cutters, of which the following is a specification.

This invention relates to improvements in pipe cutters, and more particularly to a ratchet operated rotary pipe cutter.

It is the object of this invention to provide a rotary pipe cutter especially adapted for cutting pipe of large size which is simple in construction and operation, light in weight and readily operated in a small space.

While the preferred form of this invention is illustrated upon the accompanying sheets of drawing, yet it is to be understood that minor detail changes may be made without departing from the scope thereof.

Figure 1 is a view in side elevation of the pipe cutter contemplated by this invention. Fig. 2 is a view in end elevation of Fig. 1. Fig. 3 is a view partly in section illustrating the operating mechanism of this device. Fig. 4 is a view in section taken on the line 4—4 of Fig. 3, looking in the direction of the arrow. Fig. 5 is a view in section taken on the line 5—5 of Fig. 3, looking in the direction of the arrow. Fig. 6 is a view in section taken on the line 6—6 Fig. 1, looking in the direction of the arrow.

The main body of the pipe cutter is formed of two semicircular castings 1 and 2, secured together upon one side by the hinge member 3 and upon the other side by the hinged bolt and nut 4 thereon engaging the lug 5. The outer circumference of the members 1 and 2 is provided on each side with outstanding flanges 6 and 7. The outer circumference of the body portion between the flanges is provided with a series of equally spaced ratchet teeth 8. On the inner lower side of each flange in line with the top of the ratchet teeth 8 is a groove or depression 9 which acts as a track and will be hereinafter described. Both members are preferably cast hollow with the exception of the portion in the upper member 1 containing the work engaging mechanism and the lower or opposite member is preferably tapered toward the outer circumference.

Upon the lower member 2 at equal dis-

tances from the center line are placed two rotary cutters 10, as illustrated in detail in Fig. 6. Upon the under side of the solid portion of the upper member 1, a cut out portion is provided having parallel side walls and a curved bottom wall 11. A sliding block 12 bearing a work engaging roller 13 is mounted within this cavity with one side conforming to and in contact with the curved portion 11. The side walls of the cavity are provided with grooves 14, which act as guides for the stud 15 carried upon the block 12. The curved surface 11 is so constructed in relation with the inner circumference of the upper member 1 that the block in its innermost position will support the work engaging wheel in line with the inner circumference of this member, and upon advancing the block the work engaging wheel will be advanced toward the center of the cutter. If desired the guiding grooves may be formed upon the sides of the block 12 and the guiding stud may be carried by the side walls of the cavity.

The block 12 is advanced against the work by a screw threaded shaft 16 mounted in a cylindrical aperture in the solid portion of the body member 1. A cut out portion 18 is provided at one end of this cylindrical aperture to contain the operating mechanism therefor. A longitudinal groove 19 is provided on one side of the shaft. Upon this shaft is mounted a similarly screw threaded ratchet wheel 20, a casing 21 is loosely mounted about the ratchet wheel and is provided with a handle 22. A spring pressed ratchet tooth 23 is mounted within the handle and is adapted to engage the ratchet teeth upon the wheel 20, so that upon movement of the handle in one direction the ratchet tooth 23 will slide over the teeth of the ratchet wheel, but upon movement in the opposite direction the ratchet wheel will be rotated in the direction of travel. As the screw threaded shaft is kept from rotating by pin 32, the ratchet wheel 20 is forced against the left face of recess 18, thus feeding screw threaded shaft to the right and thereby advancing the roller block 12 against the work.

The handle 24 of the pipe cutter is mounted upon a traveling block 25 having projections on each side thereof adapted to enter within the grooves or track 9 and travel over the ratchet teeth 8. A spring

pressed ratchet tooth 26 is carried upon a reciprocable shaft 27 centrally mounted within the handle 24. One face of the ratchet tooth 26 is angularly disposed so that it will ride over the teeth 8 when the handle is advanced along its track in one direction, but the tooth 26 will engage with the teeth 8 as the handle is advanced in the opposite direction. As it may be desirable to reverse the operation of the ratchet mechanism, the ratchet tooth 26 is pivotally mounted within the handle 24 and block 25. The shaft 27 extending upward from the ratchet tooth 26 has a lost movement connection with a shaft 28 extending slightly beyond the top of the handle, and is provided at the extremity thereof with an operating lever 29 adapted to engage in positioning grooves 30 in the top of the handle, in order to secure the ratchet tooth 26 in either position. The same construction may be applied to the ratchet operating mechanism for advancing the work engaging roller block, and is illustrated in Fig. 5.

The operation of this device is as follows. As shown in Fig. 1, the members 1 and 2 have been opened, placed about the pipe 31 and secured in position by the nut 4 and projection 5 with the rotary cutters 10 in engagement with the exterior of the pipe. The work engaging roller 13 has been advanced until it secures the parts firmly against the rotary cutters 10. The handle 24 is then reciprocated which causes the pipe cutter to rotate about the pipe forming a cut therein, and the depth of the cut is increased by advancing the work engaging roller 13 by means of the ratchet mechanism upon the shaft 16. The work engaging roller 13 being of greater width will roll down any bur caused upon the edges of the cut by the rotary cutters.

What I claim is:—

1. In a rotary pipe cutter, detachably connected pipe surrounding members, rotary cutters and a work engaging roller mounted upon the inner circumference, an operating handle mounted upon the outer circumference, ratchet teeth upon the outer circumference, and a reversible ratchet tooth carried upon the handle adapted to co-act therewith to rotate the cutter in one direction and upon reversal in the opposite direction.

2. In a rotary pipe cutter, detachably connected pipe surrounding members, a plurality of rotary cutters and a work engaging roller mounted upon the inner circumference, an operating handle mounted upon the outer circumference, and a ratchet mechanism for advancing the work engaging roller to hold the work against each of the rotary cutters.

3. In a rotary pipe cutter, detachably con-

nected pipe surrounding members, rotary cutters and a work engaging roller mounted upon the inner circumference, an operating handle mounted upon the outer circumference, and a ratchet mechanism for advancing the work engaging roller including a reversible ratchet tooth.

4. In a rotary pipe cutter, detachably connected pipe surrounding members, rotary cutters mounted upon the inner circumference of one of said members, the other member provided with an angular recess, a sliding block therein, a work engaging roller carried thereby, and a ratchet mechanism for advancing the roller without the recess.

5. In a rotary pipe cutter, detachably connected pipe surrounding members, rotary cutters mounted upon the inner circumference of one of said members, the other member provided with an angular recess, a sliding block therein, a work engaging roller carried thereby, a screw threaded shaft mounted in said member in engagement with said block, and a ratchet mechanism for advancing said shaft.

6. In a rotary pipe cutter, detachably connected pipe surrounding members, rotary cutters and an adjustable work engaging roller mounted upon the inner circumference, ratchet teeth about the outer circumference, internally grooved flanges upon the outer circumference, an operating handle, a sliding block carried thereby mounted to travel in the grooves of the flanges, and a ratchet tooth carried upon said block.

7. In a rotary pipe cutter, detachably connected pipe surrounding members, rotary cutters and an adjustable work engaging roller mounted upon the inner circumference, ratchet teeth about the outer circumference, internally grooved flanges upon the outer circumference, an operating handle, a sliding block carried thereby mounted to travel in the grooves of the flanges, and a reversible ratchet tooth carried upon said block.

8. In a rotary pipe cutter, detachably connected pipe surrounding members, rotary cutters and an adjustable work engaging roller mounted upon the inner circumference, ratchet teeth about the outer circumference, internally grooved flanges upon the outer circumference, an operating handle, a sliding block carried thereby mounted to travel in the grooves of the flanges, a reversible ratchet tooth carried upon the block, and means upon the handle for reversing the ratchet tooth.

FRANK A. ANDERSON.

Witnesses:

WILLIAM D. ALLEN,
GEORGE H. ROWE.